

REMARKS

In order to expedite the prosecution of the present application and respond to the formal rejections made by the Examiner, Claims 30-37 have been canceled and new Claims 37-41 have been added. The support for the new Claim 37 is found in page 3 of the specification that recites "[t]he system preferably includes heater means for heating the nematic liquid crystal to a predetermined temperature." The support for the new Claim 38 is found in Figures 2-4, page 6 of the specification that recites "a voltage corresponding to image data is applied to the segment electrode," and "the segment voltage level is V_{seg1} in the common selected period," and page 9 that recites "an image displayed on a liquid crystal panel in a frame period is erased within the same frame period." Claims 39 and 41 are supported in Claim 33 and page 7 of the specification that discloses "the segment voltage in a common non-selected period had better be V_{seg1} for displaying black." Claim 40 is supported in page 3 of the specification that discloses "applying to the segment electrode a voltage corresponding to image data to be displayed; and applying a voltage different from the voltage corresponding to the image data to the segment electrode." It is respectfully submitted that the currently presented claims contain no new matter and are cured of all formal defects. No new matter has been added.

The previously presented claims have been rejected under 35 U.S.C. §103(a) as being unpatentable over Yamashita et al, Patent No. 4 795 239 in view of Shimada et al, Patent No. 5 719 590. Applicants respectfully traverse this ground of rejection and urge that the presently claimed invention is patentably distinguishable over the prior arts cited by the Examiner.

Yamashita discloses the method of driving a liquid crystal display panel which is suitable to display a multivalued image and also discloses the voltages which are

applied to a liquid crystal. However, Yamashita does not disclose the two-step application of the voltage, comprising 1) applying voltages corresponding to image data and 2) applying constant voltage. Yamashita discloses that the voltage applied to a liquid crystal should be the difference between the voltage of the common opposite electrode and the source voltage. The method disclosed by the Yamashita patent is not a two-step application of the voltage, but is rather a one-step application of the voltage, using the constant voltage and the source voltage at the same time. On the contrary, the present patent application discloses the application of the corresponding voltage followed by the application of a constant voltage.

Shimada discloses a method for driving an active matrix substrate for use in a liquid crystal display device, and also disclose a voltage in proportion to the charge applied to the ferroelectric material that can be applied to the liquid crystal material. Similar to the Yamashita patent, the voltage applied to the pixel disclosed by Shimada is equal to the difference between the voltage applied to the corresponding scanning electrode line and the corresponding data electrode line, rather than the application of the corresponding voltage followed by the application of a constant voltage.

Further, there would be no motivation whatsoever to combine the usage of Shimada's frame periods with Yamashita's display device, since Yamashita discloses the appropriate time periods for the device of the Yamashita patent. It is not guaranteed that the Yamashita's device would work properly within the time periods of the Shimada's patent. Moreover, attempting to incorporate Yamashita's device into Shimada's time periods would necessarily involve a complete restructuring of Yamashita's disclosed arrangement.

Miyawaki does not disclose a high speed response sufficient to realize color images by three color-back lighting. As explained in page 5 of the Specification of the

current invention, the current invention utilizes a specific status of applied voltage waveforms in order to realize a high speed response even with three color images for back lighting. Thus, the combination of a nematic liquid crystal and backlight elements of three colors in the current invention should be optimally performed only with the voltage application and the frame period of the current invention.

For the above reasons allowance of Claims is respectfully requested. Further and favorable reconsideration is respectfully requested.

Respectfully submitted,


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Reg. No. L0379*

Encl: None

136.07/05



PATENT APPLICATION
IN THE U.S. PATENT AND TRADEMARK OFFICE

"Express Mail" Mailing Label No.: EM 086 186 287 US

Date of Mailing: October 31, 2007

Applicant: Masaya OKITA

Title: METHOD FOR DRIVING A NEMATIC LIQUID CRYSTAL

Serial No.: 10/038 451 Group: 2629

Confirmation No.: 8378

Filed: January 3, 2002 Examiner: Kumar

Atty. Docket No.: 4356.P004BUS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

EXPRESS MAILING CERTIFICATE

Sir:

I hereby certify that the attached paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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By: Carrie Ash

Date: October 31, 2007

Documents attached: RCE Transmittal
dated October 31, 2007
including enclosures listed thereon

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191.05/05